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Dysfunctional core beliefs, perceived parenting behavior and psychopathology in gender identity disorder: A comparison of male-to-female, female-to-male transsexual and nontranssexual control subjects

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ABSTRACT

Background: Research into the association between Gender Identity Disorder (GID) and psychological disturbances as well as on its relation with parenting experiences yielded mixed results, with different patterns for Male-to-Female (MF) and Female-to-Male (FM) transsexual subjects. We investigated vulnerability markers of maladjustment and their possible origins in MF and FM transsexuals by examining maladaptive core beliefs and parenting behaviors thought to be specifically related to them.
Methods: Dysfunctional core beliefs, parenting experiences and psychiatric symptoms were assessed by the Young Schema Questionnaire indexing 19 Early Maladaptive Schemas (EMS), the Young Parenting Inventory and the Symptom Checklist-90-R, respectively, in 30 MF, 17 FM transsexual and 114 control subjects (43 males, 114 females).
Results: Subjects with GID demonstrated a level of psychiatric distress comparable to that of controls. They did display elevated scores, however, on multiple EMSs compared to nontranssexual subjects, indicating feelings of isolation, emotional deprivation and an urge to meet others' needs, with MF transsexuals conceptualizing themselves also as more vulnerable and deficient than controls. Parenting experiences of transsexual subjects were characterised by increased maternal dominance, emotional abuse and neglect compared to controls, with males being exposed to a disengaged maternal style and more paternal emotional neglect and criticism. Both MF and FM transsexuals were made felt that in areas of achievement they will inevitably fail.
Conclusions: There is no evidence of elevated levels of psychiatric symptoms in GID, but potential predisposing factors, particularly in MF transsexuals, are present; these may originate from the more intense rejection they experience.

1. Introduction

Gender identity disorder (GID), or transsexualism, is characterised by strong cross-gender identification together with a feeling of discomfort with one's own anatomical sex and the gender role associated with that sex (Cohen-Kettenis & Gooren, 1999). Its estimated prevalence varies from 1:12,900 to 1:35,000 for MFs, and from 1:33,000 to 1:100,000 for FMs (De Cuypere et al., 2007, Gómez-Gil, Vidal-Hagemeuer, & Salamero, 2009; O'Gorman, 1982). Since it first appeared as a nosological entity, it has been a focus of debate whether GID is a manifestation of severe psychiatric morbidity, associated with mental disturbance or a diagnostic entity in its own right (Kórász & Simon, 2008).

Studies into this question yielded mixed results. GID was found to be associated with distress and higher prevalence of certain Axis I and II disorders (Bodlund, Kullgren, Sundbom, & Höjerback, 1993; Hepp, Kraemer, Schnyder, Miller, & Delsignore, 2005). Some studies, however, suggest that instead of being preconditions for the development of GID, psychiatric problems may be the consequences of persistent psychological difficulties due to the incongruence of biological sex and gender identity on the one hand and the social rejection on the other. With respect to psychopathology, and pathological personality traits, transsexuals seem to be comparable to controls (Haraldsen & Dahl, 2000; Kersting et al., 2003).

Another area of inquiry is the role of parental influences in the etiology of GID. Prior studies found that fathers of transsexuals, in particular those of MFs, were more hostile and rejecting (Sípová & Brzek, 1983) than those of controls. In

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addition, they were less dominant (Rekers, Mead, Rosen, & Brigham, 1983; Sípová & Brzek, 1983). Regarding mothers, whilst some reported an intrusive parenting control (Marantz & Coates, 1991; Tsoi, 1990), others did not find difference (Parker & Barr, 1982; Rekers et al., 1983). It is important to note, however, that transsexuals cannot be treated as a homogenous group. Specifically, several researchers identified differences between the psychological and social adjustment of MF and FM transsexuals, which may account for some of the contradictions. FMs exhibit fewer symptoms of mental distress; more stable relationships both pre- and post-surgery; and have more realistic expectations of sex-reassignment surgery (SRS) than MFs (De Cuypere, Jannes, & Rubens, 1995; Landén, Wålinder, & Lundström, 1998). In addition, FMs have marriage less often prior SRS, are more likely to have sexual relationships according to their gender identity present at younger age (Gómez-Gil et al., 2009). These findings suggest that FM transsexuals are socially and psychologically better adjusted than MFs, albeit there are some contradicting results, indicating no difference in psychiatric comorbidity (Cole, O'Boyle, Emory, & Meyer, 1997; Hepp et al., 2005) or even lower psychological functioning in FMs (Bodlund et al., 1993; Smith, van Goozen, Kuiper, & Cohen-Kettenis, 2005). To date, little attention has been paid to the differences between male and female transsexuals inpersonality traits or those elements of self-concept which may underlie the phenomenological differences. The few available studies showed that both groups displayed sex-roles and characteristics congruent with their gender identity; nonetheless, MFs tended to show more extreme cross-gender identification (Cole et al., 1997; Fleming, Jenkins, & Bugarin, 1980; Herman-Jeglinska, Grabowska, & Dulko, 2002; Lippa, 2001). Though FMs rate themselves higher than control females in self-ascribed masculinity (Herman-Jeglinska et al., 2002; Lippa, 2001), they also score higher on feminity scales (Herman-Jeglinska et al., 2002). Thus, while FM transsexuals incorporate some of their former sex-roles into their new role as males, MFs try to adhere perfectly to the sex-role stereotypically attributed to the opposite sex (Herman-Jeglinska et al., 2002), which in itself, can cause severe psychological distress. It remains unexplored whether MF and FM transsexuals also differ in their core beliefs or schemas guiding their conceptualizations of themselves and relations to others. Differences in Early Maladaptive Schemas (EMSs), identified by Young, Klosko, and Weishaar (2003) seem to be especially relevant. EMSs are pervasive, dysfunctional patterns of cognitions, memories and emotions regarding oneself and one's relationships with others. Given that EMSs are associated with poor social and psychological functioning (Ball & Cecero, 2001; Leung, Waller, & Thomas, 1999) and the differences between MF and FM transsexuals in adjustment, one can hypothesize that MF and FM transsexuals differ in their EMSs. In addition, since adverse parenting plays a role in psychopathology and disturbed internal representations of the self in general, and contributes to EMSs (Harris & Curtin, 2002; Sheffield, Waller, Emanuelli, Murray, & Meyer, 2005) as well as to the development of atypical gender identity in particular, it can be hypothesized that the 2 groups differ in their recalled child-rearing patterns. To our knowledge, only a few studies explored the differences between adult MF and FM transsexuals in this respect. They found that FMs experience less parental (especially maternal) care as children than nontranssexual females or MF transsexuals (Cohen-Kettenis and Arrindell, 1990; Tsoi, 1990). Overall, similar to MF transsexuals, who receive less paternal care than nontranssexual males or FMs (Tsoi, 1990), FMs may not have a desirable same-sex role-model. However, findings that cross-gender boys are regarded more negatively by fathers, while mothers are more acceptable, also predict the same results (Feinman, 1981; Martin, 1990; Sandnabba & Ahlberg, 1999).

The goal of our study was: 1/to characterize MF and FM transsexuals in psychopathology, core conceptualizations of the self and the world, and parenting experiences via comparing them to controls of the same and the opposite sex; and 2/to delineate differences of MF and FM transsexuals in these three areas. Based on prior research we hypothesized a level of psychopathology either similar (FMs) or slightly lower (MFs) than normal in our sample of transsexual subjects. We also expected MFs to score higher than controls and FM transsexuals on certain EMSs, especially on those related to their sex-role identification. Furthermore, we assumed that the 2 groups would differ in recalled parental behaviors that underlie EMSs. Specifically, we expected that the differences would be the most pronounced in recalled parental behaviors which either foster identification with the cross-sex parent or occur as a reaction to atypical gender development.

2. Methods

2.1. Participants

A total 204 subjects (47 transsexuals, 157 healthy controls) were included in the study. The transsexual sample comprised 30 MF (biological males diagnosed with GID) and 17 FM transsexual subjects (biological females diagnosed with GID) according to DSM-IV criteria (American Psychiatric Association, 1994) at the Semmelweis University, Department of Psychiatry and Psychotherapy, Budapest, Hungary. The diagnostic status was assessed by a trained clinical psychiatrist (first author), specialised in the assessment of GID. Participants included in the study were drawn from a larger sample of 84 patients who contacted the Department between 2003 and 2009 to request formal recommendation from mental health professionals for SRS, and were willing to participate in this investigation. Participation in the study was voluntary, with no incentives offered. All subjects involved have already had real-life experience in the desired role, either as full time men (FM) or full time women (MF) by the time of the assessment. The healthy control sample consisted of 157 volunteers (43 male, 114 female), mainly staff members and students recruited from the Semmelweis University of Medicine and the Eötvös Loránd University, and their acquaintances. None of them had history of psychiatric illness, neither had they ever felt need for psychiatric treatment.

All participants were Caucasian. All subjects gave written informed consent to participate in the study prior assessment and their permission to use the data for research purposes. The design was approved by the local research ethics committee.

2.2. Measures

2.2.1. Background information and symptom assessment

Subjects were administered a short questionnaire to obtain basic background information, history of SRS and cross-gender behavior. In order to systematically assess the level of current psychopathology, the Hungarian version of the Symptom Checklist-90-R (SCL-90-R, Derogatis, 1977) was used. The SCL-90-R is a widely used 90-items self-report questionnaire of psychiatric distress with 9 subscales plus additional items covering a wide range of psychopathological symptoms that are rated for severity with regard to the week prior assessment. Its psychometric utility has been established, with high internal consistency (Cronbach alphas ranging from 0.73 to 0.96 for the 9 subscales of the Hungarian version) and predictive value for a separation of clinical and normal samples, as well as adequate diagnostic accuracy in detecting overall psychopathology (Unoka, Rozsa, Fabian, Mervo, & Simon, 2004).

Table 1
Basic Descriptive Characteristics of the study Groups.

	MF (N = 30)		FM (N = 17)		CF (N = 114)		CM (N = 42)		Difference among groups		
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Test statistic	df	*p*-value
Age	26.07	(7.14)	28.06	(7.26)	27.06	(10.67)	30.14	(13.37)	0.93[a]	3202	0.429
Education ≤ high school	53.33%		70.58%		78.07%		62.19%				<0.001
Education > high school	46.67%		29.41%		21.93%		37.20%		8.635[b]	3	0.035

MF, Male-to-Female transsexuals; FM, Female-to-Male transsexuals; CM, Control Males; CF, Control Females; N, sample size; SD, standard deviation.
[a] ANOVA Analysis (Fstatistic).
[b] Chi square test (χ^2).

2.2.2. Young Schema Questionnaire

Young Schema Questionnaire-Long Form (YSQ, Young, 1999) is a 240-item, self-administered questionnaire, assessing the level of 19 Early Maladaptive Schemas. Participants rate their beliefs on a 6-point Liker scale, with higher item scores reflecting more pathological levels of maladaptive schemas. The 19 EMSs, assessed by the YSQ subscales, are: Emotional deprivation, Abandonment/instability, Mistrust/abuse, Defectiveness/shame, Social isolation/alienation; Social undesirability; Dependence/incompetence; Vulnerability (to harm or illness), Enmeshment/undeveloped self, Failure, Entitlement/grandiosity, Insufficient self-control/self-discipline, Subjugation, Self-sacrifice, Approval-seeking/recognition-seeking, Negativity/pessimism, Emotional inhibition, Unrelenting standards/hypercriticalness, Punitiveness (Young et al., 2003). The psychometric properties of the YSQ have been reported to be excellent, both with patients suffering from mental disorders and with control subjects with no known clinical disorder, with high internal consistency (average Cronbach alpha = 0.986) and predictive validity demonstrated by a statistically significant discrimination between patients and control subjects (Hoffart, 2005; Lee, Taylor, & Dunn, 1999; Waller, Shah, Ohanian, & Elliott, 2001). The discriminant and the convergent validity of the Hungarian version of YSQ was supported by demonstrating a significant association with the Temperament and Character Inventory and the SCL-90-R in a normal and a mixed clinical sample with depression, anxiety, personality and eating disorders. Its reliability has also been established, with a Cronbach alpha ranging from 0.85 for the Emotional inhibition subscale to 0.96 for the Failure subscale (Unoka et al., 2004).

2.2.3. Perceived parenting behaviors

The Young Parenting Inventory (YPI) (Young, 2000) is a 72-item self-administered questionnaire, which measures parenting behaviors representing the most likely origins of the above mentioned EMSs (with the exception of Social isolation/alienation and Social undesirability) on 17 subscales, by asking the clients to rate their parents separately on a number of statements regarding their childhood. Items describe the parents' behaviors, and are answered on a 6-point Likert scale. Higher scores on a subscale indicate exposure to a parenting style/behavior which fosters the development of the particular related EMS (with the exception of Emotion deprivation subscale, the items of which are reversed). According to prior studies the YPI has an acceptable level of psychometric utility (adequate test-retest reliability, ranging from 0.53 to 0.85 and internal consistency varying between 0.53 and 0.85 with an average Cronbach alpha of 0.79) (Sheffield et al., 2005). Significant associations with the YSQ-Short From indicate construct validity, although the hypothesized EMS-parenting links were not all sustained. The criterion validity of the YPI has also been partially supported with regard to general psychopathology and impulsivity (Sheffield, Waller, Emanuelli, & Murray, 2006). The discriminant and criterion validity of the Hungarian Version of the YPI was established by demonstrating statistically significant differences in the scores of normal and diverse clinical samples (Unoka, 2007).

2.3. Data analysis

The Statistical Analysis System (SAS) for Windows (version 9.2; SAS Institute, Cary, NC) was used for all statistical analyses. The level of significance was set at the two-sided $p \leq 0.05$ level. Global multivariate differences among the four study groups (MF and FM transsexuals, Control Males and Control Females) in terms of their SCL-90-R, YSQ and YPI subscale scores were investigated by Multivariate Analyses of Variance (MANOVA). In the MANOVA analysis, group status served as independent variable, whereas SCL-90-R, YSQ and YPI subscale scores were applied as dependent variables; a separate analysis was conducted for each set of variables of interest (SCL-90-R, YSQ and YPI). If the global MANOVA analysis among the four groups yielded statistical significance, post-hoc pair-wise contrasts were computed in order to test individual pair-wise differences between study groups. Hochberg's procedure was applied in order to correct for the inflation of the probability of the Type I error as a result of multiple comparisons. Univariate differences among the study groups were investigated by ANOVA analyses. Similar to the MANOVAs, if the ANOVA analysis among the four groups yielded statistical significance, post-hoc pair-wise contrasts tested individual differences between study groups. The univariate analyses were performed for descriptive purposes; the reported *p*-values in these analyses represent nominal Type I error rates, with no correction for test multiplicity. The YPI subscale scores were determined separately for each of the two parents. Between-group comparisons for categorical variables were performed by chi-square tests.

3. Results

3.1. Demographic and basic descriptive characteristics of the study groups

Basic descriptive characteristics of the study groups are summarized in Table 1. With regard to age, no significant between-group differences emerged. However, there was a significant difference between the groups regarding the level of education ($\chi^2 = 8.635$, df = 3, $p = 0.034$). As shown by the Table, MF transsexuals were more educated than either control or FM transsexuals as indexed by the larger proportion of these subjects having education beyond a high school degree.

3.2. Psychopathology

The MANOVA analysis indicated a significant overall difference among the four groups using all individual domains of the SCL-90 (Wilk's lambda = 0.74; df = 30, 523; $p = 0.0042$). Pair-wise contrasts with Hochberg's procedure for multiple comparisons showed a statistically significant difference ($p < 0.05$) for the

following group comparisons: MF transsexuals vs. Control Females, MF transsexuals vs. Control Males, FM transsexuals vs. Control Females. As indicated by Table 2, with respect to SCL-90-R, the univariate ANOVA Analysis revealed group difference only on the Interpersonal sensitivity subscale ($F = 2.69$; df = 3190; $p = 0.048$); MF transsexuals scored higher than both control groups (MF vs. CF: $p = 0.011$; MF vs. CM: $p = 0.030$). Although the score of FM transsexuals was also elevated compared to controls, the difference did not reach statistical significance. In all other aspects, patients with GID demonstrated a level of psychopathology comparable to that of controls.

3.3. Early Maladaptive Schemas

MANOVA yielded a significant overall difference among the four groups using all individual domains of the YSQ (Wilk's lambda = 0.49; df = 57, 535; $p < 0.0001$). Pair-wise contrasts with Hochberg's procedure for multiple comparisons indicated a significant ($p < 0.05$) difference all pair-wise group comparisons. Table 3 presents the means, standard deviations and the results of the ANOVA Analyses for the YSQ subscales. The univariate ANOVA analysis yielded an overall difference among the study groups on the Emotion deprivation ($F = 6.60$; df = 3202; $p < 0.001$), Defectiveness/shame ($F = 3.43$; df = 3201; $p = 0.018$). Social isolation ($F = 8.43$; df = 3201; $p < 0.001$), Vulnerability ($F = 3.55$; df = 3202; $p = 0.015$), Self-sacrifice ($F = 3.16$; df = 3202; $p = 0.026$) and the Approval-seeking subscales ($F = 3.01$; df = 3202; $p = 0.031$). As expected, both transsexual groups obtained a higher mean score on the Social isolation subscale than either control males or control females (MF vs. CF or CM: $p < 0.001$; FM vs CF: $p = 0.002$; FM vs. CM: $p = 0.005$). In addition, both groups scored substantially higher than control males on the Self-sacrifice subscale (MF vs. CM: $p = 0.014$; FM vs CM: $p = 0.017$) and marginally higher compared to control females (MF vs. CF: $p = 0.072$; FM vs CF: $p = 0.075$). Besides, both MF and FM transsexuals obtained a higher mean score on the Emotion deprivation subscale compared to control females (MF vs. CF: $p < 0.001$, FM vs. CF: $p = 0.0036$), with MF transsexuals also scoring higher than control males ($p = 0.015$). MF transsexuals also scored higher than either of the two control groups on the Vulnerability subscale (MF vs. CM: $p = 0.028$; MF vs. CF: $p = 0.01$) and had a higher score compared with control females on the Defectiveness/shame subscale ($p = 0.006$). Regarding the Approval-seeking subscale, FM transsexuals scored lower than either control males $p = 0.040$ or females ($p = 0.025$) and even lower compared to MF transsexuals ($p = 0.003$).

3.4. Parenting behavior

MANOVA yielded a significant overall difference among the four groups for all individual domains of the EMS-related parental behaviors (Wilk's lambda = 0.38; df = 102, 408; $p < 0.0016$). In addition, pair-wise contrasts with Hochberg's procedure for multiple comparisons showed significant ($p < 0.05$) difference all pair-wise group comparisons. In the subsequent part of this section, descriptive statistical analyses for univariate differences among the four groups in terms of maternal and paternal parenting behaviors will be presented separately.

Maternal parental behavior. Table 4 displays the means, standard deviations and the results of the statistical analyses for the Young Parenting Inventory subscales. Regarding maternal ratings, the ANOVA analysis revealed an overall difference among the study groups on the Emotion deprivation ($F = 3.95$; df = 3185; $p = 0.009$), Mistrust/abuse ($F = 2.78$; df = 3185; $p = 0.042$), Defectiveness/shame ($F = 3.40$; df = 3185; $p = 0.019$), Failure ($F = 7.89$; df = 3185; $p < 0.001$), Insufficient self-control ($F = 2.95$; df = 3184; $p = 0.034$), Subjugation ($F = 3.82$; df = 3185; $p = 0.011$) and the Unrelenting standards subscales ($F = 3.47$; df = 3185; $p = 0.017$).

Results showed both groups of transsexuals to rate their mothers lower on the Emotion deprivation and higher on the Subjugation subscale compared to control males (Emotion deprivation – MF vs CM: $p = 0.039$; FM vs CM: $p = 0.003$; Subjugation: MF vs CM: $p = 0.042$; FM vs CM: $p = 0.002$), and FM transsexuals to rate them lower (Emotion deprivation) and higher (Subjugation) also when compared with control females ($p = 0.007$ and $p = 0.009$, respectively), thus as less caring, less emotionally warm and more controlling than controls did. In addition, both MF and FM transsexuals rated their mothers substantially higher than either control males or females on the Failure subscale (MF vs CM, CF: $p < 0.001$; FM vs CM: $p = 0.004$; FM vs. CF: $p = 0.003$). Furthermore, FM transsexuals also scored them higher on the Defectiveness/shame subscale compared to both control males ($p = 0.004$) and females ($p = 0.006$). The latter two findings indicate exposure to a maternal behavior that enhances the development of the core beliefs of being deficient and foredoomed to failure.

Table 2
Results of ANOVA Analyses of Male-to-Female, Female-to-Male, Control Male and Control Female groups for SCL-90-R subscale scores.

	MF (N = 27)		FM (N = 15)		CF (N = 108)		CM (N = 41)		Difference among groups[c]		
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Test statistic (F)	df[d]	p-value[e]
Global Severity Index[a]	50.01	(8.04)	51.27	(10.79)	44.74	(4.02)	50.00	(6.53)	0.27	3187	0.84
Somatization[b]	3.88	(1.03)	5.87	(1.39)	5.86	(0.52)	5.93	(0.84)	1.06	3190	0.37
Obsessive-compulsive	4.37	(1.06)	4.93	(1.42)	4.76	(0.53)	5.68	(0.86)	0.39	3190	0.76
Interpersonal sensitivity	8.29	(1.12)	7.27	(1.51)	5.06	(0.56)	5.12	(0.91)	2.69	3190	0.05
Depression	11.92	(1.87)	9.87	(2.52)	9.67	(0.94)	10.68	(1.52)	0.43	3190	0.73
Anxiety	4.89	(1.15)	5.20	(1.54)	5.42	(0.57)	6.29	(0.93)	0.35	3190	0.79
Hostility	1.85	(0.59)	2.13	(0.79)	2.55	(0.29)	3.12	(0.48)	1.03	3190	0.38
Phobic Anxiety	3.67	(0.65)	3.60	(0.91)	2.79	(0.34)	2.56	(0.55)	0.78	3190	0.51
Paranoid ideation	3.81	(0.62)	3.53	(0.839)	2.55	(0.31)	2.24	(0.50)	1.76	3190	0.16
Psychocitism	2.85	(0.74)	3.67	(0.99)	2 > 57	(0.37)	3.63	(0.60)	0.96	3190	0.42

MF, Male-to-Female transsexuals; FM, Female-to-Male transsexuals; CM, Control Males; CF, Control Females; N, sample size; SD, standard deviation.

[a] Mean total score for the SCL-90-R.

[b] Subscales of the Hungarian version of the Symptom Checklist-90-R (SCL-90-R).

[c] MANOVA indicated a significant overall difference among the four groups using all individual domains of the SCL-90 (Wilk's lambda = 0.74; df = 30, 523; $p = 0.0042$). Pair-wise contrasts with Hochberg's procedure for multiple comparisons indicated a significant ($p < 0.05$) difference for the following group comparisons: MF vs. CF, MF vs. CM, FM vs. CF.

[d] Sample size could vary due to missing data.

[e] Univariate p-values signify nominal rates of Type I error, and are presented for descriptive purposes only.

Table 3
Results of ANOVA Analyses of male-to-female, female-to-male, control male and control female groups for YSQ subscale scores.

	MF (N = 30)[a]		FM (N = 17)[a]		CF (N = 113)[a]		CM (N = 43)[a]		Difference among groups[b]		
EMSs	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Test statistic (F)	df[c]	p-value[d]
Emotion deprivation	2.54	(0.18)	2.23	(0.24)	1.68	(0.09)	1.96	(0.15)	6.60	3. 202	<0.001 A
Abandonement/instability	2.38	(0.16)	2.16	(0.20)	2.09	(0.08)	2.00	(0.13)	1.23	3. 202	0.299
Mistrust/abuse	2.54	(0.15)	2.48	(0.20)	2.16	(0.08)	2.11	(0.13)	2.49	3. 202	0.061
Defectiveness/shame	1.91	(0.12)	1.86	(0.16)	1.53	(0.06)	1.71	(0.10)	3.43	3. 201	0.018 B
Social isolation/alienation	2.62	(0.18)	2.58	(0.24)	1.79	(0.09)	1.78	(0.15)	8.43	3. 201	<0.001 C
Social undesirability	1.84	(0.14)	2.00	(0.18)	1.71	(0.07)	1.87	(0.11)	1.05	3. 201	0.370
Dependency	1.95	(0.14)	1.73	(0.18)	1.75	(0.07)	1.78	(0.12)	0.56	3. 202	0.639
Vulnerability to harm or illness	2.13	(0.12)	1.83	(0.16)	1.68	(0.06)	1.78	(0.10)	3.55	3. 202	0.015 D
Enmeshment/undeveloped self	1.75	(0.77)	1.64	(0.60)	1.80	(0.76)	1.61	(0.65)	0.75	3. 201	0.523
Failure	1.79	(0.15)	1.52	(0.20)	1.656	(0.08)	1.92	(0.13)	1.37	3. 202	0.254
Entitlement/grandiosity	2.65	(0.15)	2.46	(0.20)	2.42	(0.08)	2.27	(0.13)	1.23	3. 202	0.298
Insufficient self-control/self-discipline	2.12	(0.14)	2.37	(0.18)	2.15	(0.07)	2.20	(0.11)	0.49	3. 202	0.687
Subjugation	2.11	(0.14)	1.56	(0.19)	1.87	(0.07)	1.87	(0.12)	1.73	3. 202	0.162
Self-sacrifice	3.19	(0.16)	3.27	(0.20)	2.87	(0.08)	2.69	(0.13)	3.16	3. 202	0.026 E
Approval seeking	2.59	(0.15)	1.82	(0.20)	2.32	(0.08)	2.32	(0.13)	3.01	3. 202	0.031 F
Negativism/pessimism	2.51	(0.18)	2.34	(0.24)	2.26	(0.09)	2.19	(0.15)	0.70	3. 202	0.551
Emotion inhibition	2.06	(0.15)	2.10	(0.20)	1.73	(0.08)	1.96	(0.13)	2.14	3. 202	0.096
Unrelenting standards/hypercriticalness	2.72	(0.18)	2.79	(0.24)	2.80	(0.09)	2.77	(0.15)	0.06	3. 202	0.981
Punitiveness	2.33	(0.14)	2.56	(0.19)	2.64	(0.07)	2.61	(0.12)	1.20	3. 202	0.310

YQS, Young Schema Questionnaire-Long form; EMS, Early Maladaptive Schemas; MF, Male-to-Female transsexuals; FM, Female-to-Male transsexuals; CM, Control Males; CF, Control Females; N, sample size; SD, standard deviation.
Pair-wise contrasts at the nominal $p < 0.05$ level.
A: MF > CF or CM, FM > CF; B: MF > CF; C: MF > CF or CM, FM > CF or CM; D: MF > CM or CF; E: MF > CM, FM > CM; F: MF > CM or CF or FM.
[a] Sample sizes in the different analyses slightly vary due to missing data.
[b] MANOVA indicated a significant overall difference among the four groups using all individual domains of the YSQ (Wilk's lambda = 0.49; df = 57, 535; $p < 0.0001$). Pair-wise contrasts with Hochberg's procedure for multiple comparisons indicated a significant ($p < 0.05$) difference all pair-wise group comparisons.
[c] Sample size could vary due to missing data.
[d] Univariate p-values signify nominal rates of Type I error, and are presented for descriptive purposes only.

In addition to the aforementioned results, MF transsexuals also had higher scores on the YPI Mistrust/abuse subscale compared to control males ($p = 0.007$) and females ($p = 0.018$), and even compared to FM transsexuals ($p = 0.040$). At the same time, however, they also rated their mothers lower on the Unrelenting standards subscale compared to both FM transsexuals ($p = 0.008$) and control females ($p = 0.009$). Furthermore, they scored their mothers substantially higher than either FM transsexuals ($p = 0.009$) or control females ($p = 0.015$) on the Insufficient self-control subscale. This suggests that, while being less reliable and more abusive, the mothers of MF transsexuals had less requirements concerning self-control and achievement than either the mothers of nontranssexual or FM transsexuals.

3.5. Paternal parenting behavior

Concerning paternal ratings, the ANOVA Analysis yielded an overall difference among the study groups on the Abandonment/instability ($F = 3.36$; df = 3175; $p = 0.020$) and Failure subscales ($F = 4.70$; df = 3174; $p < 0.01$) and a marginally significant difference on the Emotion deprivation subscale ($F = 2.59$; df = 3175; $p = 0.054$). MF transsexuals rated their fathers lower than either control males or females on the Emotion deprivation ($p = 0.009$ and $p = 0.022$, respectively) and higher on the Abandonment/instability (MF vs CM: $p = 0.004$; MF vs. CF: $p = 0.008$) and Failure subscales (MF vs CM: $p = 0.002$; MF vs. CF: $p < 0.001$), indicating that they provided less care, affection and support while being more critical as compared to the fathers of control subjects.

4. Discussion

This study examined psychopathology, dysfunctional core beliefs and perceived parenting experiences in MF and FM transsexual subjects compared to controls, in order to gain understanding of factors that contribute to psychological maladjustment and play a role in the specific sex-role identification demonstrated by transsexuals. In addition, it also delineated differences between the two transsexual groups in the above areas. Regarding Early Maladaptive Schemas and psychopathology, we found that both MF and FM transsexuals represented themselves as someone isolated from society, whose basic emotional needs are scarcely met.

This, in fact, may be due to the suppression of their own sense of self, to which they are coerced to for years, to social exclusion, and rejection of the need to be accepted as members of the other sex. Despite these EMSs, only MF transsexuals demonstrated elevated level of interpersonal sensitivity on SCL-90-R compared to controls. MFs had more negative view of themselves (as deficient and vulnerable) and more negative expectations of the world than controls – a core belief which may partially account for the hypersensitivity to rejection. Compared to male as well as female controls, both MF and FM subjects also put more emphasis on meeting others' needs, even at the expense of their own gratification. FMs, at the same time, displayed more independence of social feedback, with lesser need to gain recognition from others than any other subjects. Despite their EMSs, in terms of global psychopathology, neither MF nor FM transsexuals differed from controls.

Overall, our results for psychiatric symptoms corroborate Haraldsen and Dahl's (2000) findings, indicating a level of psychopathology in transsexuals comparable with that of healthy controls using SCL-90-R (Haraldsen & Dahl, 2000). Thus, they are in line with views which do not regard GID a manifestation of psychiatric disorder (Bodlund et al., 1993; Cole et al., 1997; Haraldsen & Dahl, 2000). Our study both supports and contrasts with those that describe MF transsexuals as more distressed than their female counterparts (Blanchard, Steiner, & Clemmensen, 1985; Landén et al., 1998; Lothstein, 1984). Specifically, we observed differences in factors that are (with one exception) predisposing for psychiatric disturbances (and are not indicators of such disturbances per se). As self-sacrifice is regarded a stereotypical female characteristic, it may be argued that our findings for the YSQ Self-sacrifice subscale also support previous studies. These demonstrated more extreme cross-gender identification in MFs

Table 4
Differences between Male-to-Female, Female-to-Male, Control Male and Control Female groups with regard to retrospective ratings of EMS-related parental behaviors.

	MF (N = 23)[a]		FM (N = 12)[a]		CF (N = 108)[a]		CM (N = 43)[a]		Difference among groups[b]		
YPI-scales	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Test statistic (F)	df[c]	p-value[d]
Emotion deprivation - mother	22.78	(1.15)	20.33	(1.60)	24.93	(0.53)	25.74	(0.84)	3.95	3. 185	0.009 A
Emotion deprivation - father	16.85	(1.54)	18.91	(2.13)	20.79	(0.70)	21.85	(1.11)	2.59	3. 175	0.054 B
Abandonement - mother	6.73	(0.58)	6.83	(0.80)	5.70	(0.27)	5.08	(0.42)	2.40	3. 185	0.070
Abandonement - father	9.22	(0.81)	8.18	(1.12)	6.82	(0.37)	6.33	(0.58)	3.36	3. 175	0.020 C
Mistrust/abuse - mother	6.00	(0.42)	4.00	(0.59)	4.88	(0.20)	4.56	(0.31)	2.78	3. 185	0.042 D
Mistrust/abuse - father	5.95	(0.45)	4.18	(0.63)	5.03	(0.20)	5.05	(0.32)	1.94	3. 174	0.125
Defectiveness/shame - mother	7.95	(0.87)	10.25	(1.20)	6.73	(0.40)	6.25	(0.64)	3.40	3. 185	0.019 E
Defectiveness/shame - father	8.85	(0.82)	6.18	(1.14)	6.85	(0.37)	6.39	(0.59)	2.26	3. 172	0.837
Dependency - mother	6.91	(0.73)	8.08	(1.01)	6.51	(0.34)	5.37	(0.54)	2.34	3. 185	0.075
Dependency - father	5.52	(0.59)	6.09	(0.80)	5.43	(0.27)	4.73	(0.42)	1.06	3. 172	0.368
Vulnerability - mother	10.43	(1.11)	9.66	(1.53)	11.25	(0.51)	10.81	(0.81)	0.43	3. 185	0.732
Vulnerability - father	7.23	(0.86)	8.73	(0.19)	8.76	(0.39)	7.78	(0.62)	1.24	3. 172	0.296
Enmeshment - mother	11.04	(0.80)	10.67	(1.11)	11.04	(0.37)	11.19	(0.59)	0.06	3. 184	0.982
Enmeshment - father	9.17	(0.82)	8.36	(1.11)	9.48	(0.37)	10.20	(0.58)	0.89	3. 172	0.447
Failure - mother	7.21	(0.54)	7.25	(0.75)	4.87	(0.25)	4.79	(0.40)	7.89	3. 185	<0.001 F
Failure - father	7.42	(0.65)	6.36	(0.90)	4.96	(0.29)	4.90	(0.47)	4.70	3. 172	0.003 G
Entitlement - mother	9.95	(0.66)	8.83	(0.91)	9.37	(0.30)	9.30	(0.48)	0.38	3. 184	0.764
Entitlement - father	9.50	(0.62)	7.64	(0.83)	9.03	(0.27)	8.95	(0.43)	1.11	3. 172	0.345
Insufficient self-control - mother	8.56	(0.64)	5.667	(0.89)	6.82	(0.30)	7.30	(0.47)	2.95	3. 184	0.034 H
Insufficient self-control - father	8.25	(0.74)	7.27	(1.00)	7.33	(0.33)	7.83	(0.52)	0.57	3. 172	0.635
Subjugation - mother	8.60	(0.90)	10.66	(1.26)	7.17	(0.42)	6.30	(0.66)	3.82	3. 185	0.011 I
Subjugation - father	9.62	(0.94)	6.82	(1.30)	7.30	(0.43)	6.68	(0.67)	2.30	3. 172	0.080
Self-sacrifice - mother	8.30	(0.73)	9.58	(1.01)	10.10	(0.34)	9.88	(0.53)	1.69	3. 185	0.171
Self-sacrifice - father	7.09	(0.71)	8.36	(0.99)	7.76	(0.32)	8.32	(0.51)	0.76	3. 172	0.516
Approval seeking - mother	9.73	(1.08)	13.33	(1.50)	11.23	(0.50)	10.74	(0.79)	1.35	3. 184	0.261
Approval seeking - father	11.40	(0.98)	8.18	(1.33)	10.77	(0.44)	10.19	(0.699)	1.48	3. 172	0.222
Negativism/pessimism - mother	11.04	(0.98)	11.67	(1.35)	11.52	(0.45)	10.19	(0.72)	0.88	3. 184	0.454
Negativism/pessimism - father	10.00	(0.86)	7.45	(1.16)	9.75	(0.38)	9.12	(0.60)	1.42	3. 172	0.238
Emotion inhibition mother	14.35	(0.91)	16.41	(1.26)	14.27	(0.42)	14.16	(0.67)	0.92	3. 184	0.432
Emotion inhibition father	17.65	(0.98)	17.54	(1.32)	15.67	(0.44)	15.51	(0.68)	1.76	3. 172	0.157
Unrelenting standards - mother	17.95	(1.68)	25.67	(2.33)	22.84	(0.78)	20.76	(1.23)	3.47	3. 185	0.017 J
Unrelenting standards - father	19.75	(1.66)	18.27	(2.23)	21.21	(0.74)	21.00	(1.16)	0.67	3. 170	0.573
Punitiveness - mother	10.04	(0.96)	11.92	(1.33)	9.51	(0.45)	8.67	(0.70)	1.66	3. 184	0.178
Punitiveness - father	11.45	(1.07)	7.72	(1.45)	9.48	(0.48)	8.85	(0.75)	1.83	3. 172	0.143

YPI, Young Parenting Inventory; EMSs, Early Maladaptive Schemas; MF, Male-to-Female transsexuals; FM, Female-to-Male transsexuals; CM, Control Males; CF, Control Females; N, sample size; SD, standard deviation.
Pair-wise contrasts at the nominal $p < 0.05$ level.
A: FM < CF or CM, MF < CM; B: MF < CM or CF; C: MF > CM or CF; D: MF > CM or CF, MF > FM; E: FM > CF or CM; F: MF > CF or CM, FM > CM or CF; G: MF > CM or CF; H: MF > CF, MF > FM; I: MF > CF, MF > FM; J: MF < CF, MF < FM.

[a] Sample sizes slightly vary in the different analyses due to missing data.

[b] MANOVA indicated a significant overall difference among the four groups using all individual domains of the EMS-related parental behaviors (Wilk's lambda = 0.38; df = 102, 408; $p < 0.0016$). Pair-wise contrasts with Hochberg's procedure for multiple comparisons indicated a significant ($p < 0.05$) difference all pair-wise group comparisons.

[c] Sample size could vary due to missing data.

[d] Univariate *p*-values signify nominal rates of Type I error, and are presented for descriptive purposes only.

(Fleming et al., 1980; Herman-Jeglinska et al., 2002) and suggested an integration of old and new sex-roles in FMs (Herman-Jeglinska et al., 2002), though alternative explanations may exist.

With respect to perceived parenting behaviors, we found that both FM and MF transsexuals characterised their mothers as being less caring, less affective and, at the same time, more controlling during their childhood as compared to controls. MF transsexuals also rated their mothers as more abusive and unreliable than any other subjects. In addition, both transsexual groups described their mothers as someone constantly conveying the belief that, in areas of achievement, they will inevitably fail, with FM transsexuals made felt as if they were defective and unacceptable as well. At the same time, MF transsexuals rated their mothers as demanding less self-discipline and setting up lower standards of performance as compared to mothers of controls. Regarding paternal ratings, we documented difference between transsexuals and controls only in case of males with GID. MF transsexuals rated their fathers as less caring, less available and reliable with regard to support and more criticising and contemptuous than controls did.

Our findings are consistent with the early investigations reporting association between GID and paternal emotional neglect (Parker & Barr, 1982; Rekers et al., 1983) as well as paternal rejection in male subjects (Sípová & Brzek, 1983). However, they contrast with that of Cohen-Kettenis and Arrindell (1990), who demonstrated this association also in a sample of females with GID. They also support previous works which had evidence for less maternal care and affection in FM transsexuals (Cohen-Kettenis and Arrindell, 1990; Tsoi, 1990) and supplement previous ones by documenting a similar parenting style in their MF counterparts, and by indicating maternal abuse in both transsexual groups. Our results are also in line with those of prior studies which suggested increased maternal control in MFs compared to control subjects (Marantz & Coates, 1991; Tsoi, 1990), and corroborate Cohen-Kettenis and Arrindell (1990)' findings who demonstrated such maternal behavior also in FMs.

It could be argued that these results underpin those views which regard the inadequacy of the same-sex parent to serve as a role model, a key component of atypical gender identity development. However, one may also consider the above child-rearing practices, at least in part, as reactions to the signs of cross-gender identification in children. From this perspective, elevated level of control, abuse, reduced emotional warmth and low self-discipline

(as a sign of neglect), may be conceived of as manifestations of discouragement of and, perhaps, concern about the cross-gender behavior. Indeed, our results for the paternal behavior in MF transsexuals, are in line with the findings showing that men rate cross-gender behavior of boys more negatively than that of girls, although they seem to contrast with those describing mothers as being more accepting (Feinman, 1981; Martin, 1990).

Explanations for the differential evaluation of MF and FM transsexuals generally stress that female role has a lower status, making transition into this role less acceptable than transition into the male role (Feinman, 1981; Sandnabba & Ahlberg, 1999). We may assume that the negative self-concept and the conceptualization of the world as threatening, observed in MFs, is due to their more intense early experiences of rejection, confirmed by the negative reaction of the society later on. The rather disengaged maternal style MF transsexuals are exposed to (i.e., more of emotional neglect, lower standards), as well as their apparent inability to cut themselves adrift of external feedback might also contribute to the sense of vulnerability and defectiveness. These factors are expected to make adaptation to expectations harder and to make MFs less able than their FMs to ward off the effects of social rejection. One may speculate that the latter feature of MF transsexuals is partly due to the fact that, contrary to FMs, they lack a traditional role-model for cross-gender identification. This forces them to rely on external feedback to their gender-role behavior, while biological vulnerability, causing sensitivity to social reinforcement may also play a role. As for the observed self-sacrificing behavior, we may hypothesize that it serves as a coping mechanism for transsexual patients try to attain the approval of others. This, in turn, would help to combat the adverse feelings arising from social repudiation and/or the sense of defectiveness. MFs consider self-sacrifice an important feature of the typical female gender-role that they are eager to identify with; thus, in their case such behavior may also serve as a means to reinforce their constantly questioned gender identity. We may speculate that the lack of difference in terms of overall psychiatric distress between transsexuals and controls might be due to somewhat different factors in the two transsexual groups. It may reflect successful coping with the help of the aforementioned mechanisms in case of MFs, and resilience due to the relative independence of external judgement in FM transsexuals.

5. Limitations

As retrospective assessment of parenting experiences might be distorted (Hardt & Rutter, 2004; Young et al., 2003), caution is needed about the interpretation of our findings concerning parental behaviors. In order to confirm conclusions for the association of GID development and parental child-rearing practices, further investigations with longitudinal, prospective design or utilizing other sources of information (i.e. ratings by siblings or available contemporaneous clinical reports) are needed. With respect to psychopathology, structured diagnostic interviews could have provided additional insights into psychiatric comorbidity and further facilitated the comparison of our results with those of prior investigations. In addition, inclusion of a psychiatric control group could have helped us to place our EMS findings into further clinical context. An additional shortcoming is that we could not specify subtypes within the 2 transsexual groups on the basis of sexual orientation. It has been demonstrated that homosexual transsexuals show better adjustment and possibly differ in etiology compared to their more distressed heterosexual counterparts (Cohen-Kettenis & Gooren, 1999; Smith et al., 2005). To confirm our findings, further studies that take into account these considerations and use a greater number of participants would be required. In light of the potential importance of factors identified in our study, the involvement of measures of coping style, social support and temperament would be also beneficial.

6. Conclusions

This study found no evidence for elevated levels of depression, anxiety or psychosis-related symptoms, or for signs of serious personality pathology in subjects with GID. It thereby provides support for those views which question the pathological nature of transsexualism itself and dispute its classification as a mental disorder. It did demonstrate differences between transsexual and control subjects, however, in their dysfunctional core beliefs, particularly in those which may be related to familial or social reactions to cross-gender identification. It also documented differences regarding the parental behaviors experienced, most of which may be interpreted as manifestations of rejection and discouragement. Results point to the particular vulnerability of MF transsexual subjects as indexed by their higher number of dysfunctional core beliefs and their more adverse parenting experiences. This thereby highlights the importance of providing special assistance for them as well as for parents raising boys with GID, in order to avoid the development of psychiatric disturbances and facilitate coping with social rejection.

Declaration of interest

None.

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